

=> d his

(FILE 'HOME' ENTERED AT 07:51:57 ON 09 NOV 2007)
FILE 'CA' ENTERED AT 07:52:08 ON 09 NOV 2007
L1 42110 S HOLOCARBONIC? OR APOCARBONIC? OR HOLOENZYME? OR APOENZYME? OR
HOLOPROTEIN OR APOPROTEIN OR APO OR HOLO
L2 89776 S (ZINC OR ZN OR ZN2) (5A) (DETECT? OR DETERMIN? OR ASSAY? OR ANALY?
OR ASSESS? OR TEST? OR MEASUR? OR MONITOR? OR ESTIMAT? OR EVALUAT?
OR SENSE# OR SENSOR OR SENSING OR PROBE# OR PROBING OR JUDG? OR
QUANTITAT? OR QUANTIF? OR ASCERTAIN? OR QUANTITIZ? OR QUANTIZ?)
L3 100398 S (DUAL OR 2 OR TWO OR DOUBLE OR PAIR OR TETHER? OR COVALENT? OR
BOUND OR LINK? OR IMMOBIL?) (4A) (LABEL? OR DYE OR INDICATOR OR
FLUOROPHOR? OR LUMINOPHOR? OR (LUMINES? OR FLUORESC?) (1A) (TAG OR
MOLECULE OR MOIETY OR GROUP))
L4 12507 S FRET OR FLUORESC? (3A) (ENERGY (2A) TRANSFER? OR DONOR OR ACCEPTOR)
L5 233 S L1 AND L2
L6 49 S L5 AND FLUORES?
L7 137 S L1 AND L4
L8 1356 S L3 AND L4
L9 36 S L8 AND (ZINC OR ZN OR ZN2)
L10 225 S L1 AND (TETHER? OR COVALENT? OR BOUND OR LINK? OR IMMOBIL?) (4A)
(LABEL? OR DYE OR INDICATOR OR FLUOROPHOR? OR LUMINOPHOR? OR
(LUMINES? OR FLUORESC?) (1A) (TAG OR MOLECULE OR MOIETY OR GROUP))
L11 60 S L10 AND FLUORES?
L12 267 S L6-7, L9, L11
L13 179 S L12 AND PY<2003
L14 12 S L12 NOT L13 AND PATENT/DT AND PY<2006
FILE 'BIOSIS' ENTERED AT 08:23:46 ON 09 NOV 2007
L15 113 S L13
FILE 'MEDLINE' ENTERED AT 08:24:25 ON 09 NOV 2007
L16 109 S L13
FILE 'CA, BIOSIS, MEDLINE' ENTERED AT 08:25:20 ON 09 NOV 2007
L17 238 DUP REM L13 L14 L15 L16 (175 DUPLICATES REMOVED)

=> d bib,ab,kwic l17 1-238

L17 ANSWER 66 OF 238 CA COPYRIGHT 2007 ACS on STN
AN 133:116873 CA
TI Zinc biosensing with multiphoton excitation using carbonic anhydrase and
improved fluorophores
AU Thompson, Richard B.; Maliwal, Badri P.; Zeng, Hui-Hui
CS Department of Biochemistry and Molecular Biology, University of Maryland
School of Medicine, Baltimore, MD, 21201, USA
SO Journal of Biomedical Optics (2000), 5(1), 17-22
AB Previously, we had shown that the zinc-dependent binding of certain
fluorescent aryl sulfonamide inhibitors could be used with **apocarbonic**
anhydrase II to transduce the level of free zinc as a change in the
fluorescence of the inhibitor. While inhibitors such as dansylamide,
ABD-M, and ABD-N made possible **quantitation** of free **zinc** in the
picomolar range with high selectivity, they have only modest absorbance
which limits their utility. We describe here the synthesis and
properties of two new probes, Dapoxyl sulfonamide and BTCS, and their
use in zinc biosensing. Dapoxyl sulfonamide exhibits a dramatic
increase and blue shift in its emission upon binding to **holocarbonic**

anhydrase II, as well as a 20-fold increase in lifetime: it is thus well suited for **quantitating** free **Zn(II)** down to picomolar ranges. The anisotropy of BTCS increases fivefold upon binding to the **holoprotein**, making this probe well suited for anisotropy-based **detn.** of **zinc**. BTCS and ABD-N are efficiently excited with two photon excitation using 1.5 ps pulses from a titanium sapphire laser, and exhibit the increased zinc-dependent anisotropy response anticipated on the basis of photoselection.

L17 ANSWER 108 OF 238 CA COPYRIGHT 2007 ACS on STN
AN 122:285866 CA
TI Lifetime-based **fluorescence energy transfer** biosensing of zinc
AU Thompson, Richard B.; Patchan, Marcia W.
CS Dep. Biol. Chem., Univ. Maryland Sch. Med., Baltimore, MD, 21201, USA
SO Analytical Biochemistry (1995), 227(1), 123-8
AB A new type of **fluorescence** transduction method for **detg. zinc** in soln. is described. The approach is based upon **energy transfer** from a **fluorescent** label on an enzyme, human carbonic anhydrase II, to a colored inhibitor which binds to zinc in the enzyme active site. If zinc is present in soln., it binds to the **apoenzyme**, which in turn permits the inhibitor to bind to the enzyme; the inhibitor is thus in close proximity to the label on the enzyme and thereby quenches the label's **fluorescence** by Forster **energy transfer** with a concomitant redn. of its lifetime, which is quantitated by phase fluorometry.

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STN INTERNATIONAL LOGOFF AT 08:27:26 ON 09 NOV 2007